DOCUMENT RESUME

ED 124 305 PS 008 665

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TITLE Achievement Motivation in Four-Year-Olds: An Evaluation of a Community Intervention Program.
PUB DATE [76]
NOTE 17p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Achievement; *Community Programs; Developmental Programs; *Intervention; Lower Class; Middle Class; *Motivation; Parents; Preschool Children; *Preschool Education; Social Behavior; Social Development; *Socioeconomic Influences
IDENTIFIERS Parent Child Centers

ABSTRACT

This paper presents a study of lower socioeconomic status children who were exposed to a Parent-Child Center stimulation program from infancy to age 3. Center children (N=10) were compared to a control group (N=10) having a group care experience, another control group (N=10) with no prior experience of any kind, and a middle socioeconomic status group (N=10) with no prior intervention. All children entered nursery school at ages 3 - 31/2. Each child had completed 3-4 months of nursery school when a behavior coding system was used to make observational records of each child during free play. The effect of the Parent-Child Center program on the development of achievement oriented behavior was positively demonstrated in terms of differences between experimental and control groups of lower SES and the finding of no difference between the experimental group and the middle SES sample. The study demonstrated both an effect of a Parent-Child Center program and the existence of differences in achievement oriented behavior associated with SES levels. (SB)

Achievement Motivation In Four-Year-Olds: An Evaluation of a Community Intervention Program

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Lower socio-economic status children were exposed to a Parent-Child Center stimulation program from infancy to age 3. Center children (N=10) were compared to a control group (N=10) having had a group care experience, a control group (N=10) with no prior experience of any kind, and a middle SES group (N=10) with no prior intervention. The effect of the Parent-Child Center program on the development of achievement oriented behavior was positively demonstrated in terms of differences between experimental and control groups of lower SES and the finding of no difference between the experimental group and the middle SES sample. The study demonstrated both an effect of a Parent-Child Center program and the existence of differences in achievement oriented behavior associated with SES levels.

Achievement Motivation In Four-Year-Olds: An Evaluation of a Community Intervention Program

Parent-Child Centers[2] are community-based and community-run programs expected to have multiple effects on significant aspects of the behavior of parents and children. Goals include cognitive stimulation for children, "parenting" education for the parents, and the development and enhancement of achievement orientation in both. An attitude of pride is taken in pointing to the number of parents who have found jobs, gone back to school, taken positions of leadership in the local community, etc. The present study is concerned with a similar issue in the children: to what degree does a Parent-Child Center program influence the development of achievement motivation.

The concept of achievement motivation is, of course, an old one which has been extensively studied and basically defined as a tendency to strive for success when one's performance is evaluated against a standard of excellence (McClelland, et al., 1953; Atkinson and Feather, 1966). The observable behavioral components of "striving for success" can be time on task, persistence on task (in spite of failure, not diminished by distracting experiences)

and whatever behaviors can be associated with "an eagerness to learn," "an expectation of success," "a willingness to struggle with the difficulties involved"; basically, an aggressive approach to problem-solving tasks.

Method

It was hypothesized that exposure to the Parent-Child Center program would affect a child's behavior in ways which would reflect different levels of self-confidence, frustration-tolerence, task persistence, and interest in completing, solving, or mastering new tasks. These behaviors constitute the concept of "achievement motivation" and it was hypothesized that frequencies of occurrence of these types of behavior could be measured utilizing a natural observation procedure. Matched groups of controls from a poverty population (C), a control sample from a middle class population (M), and Parent-Child Center children (PCC) could be compared on such measures.

Subjects

The PCC subjects had been in the Parent-Child Center program from infancy (birth to nine months) until the termination of their contact with the program at age 3 to 3 1/2 years. They were then placed in a nursery-school program to cover the time period between "graduation" from the Parent-Child Center and entrance into public school.

There were two control groups of similar socio-economic background, C1 and C2. C1 consisted of youngsters

placed in nursery-school programs at age 3 to 3 1/2 years who had not received any type of prior group experience. C2 subjects entered similar nursery programs at the same age but had been exposed to group-care during their infancy (birth to twelve months until age 3 to 3 1/2 years).

The middle class control group (M) had been placed in a private nursery school at age 3 1/2 years. They had not received any type of prior group experience.

Group PCC had had prior exposure to the Parent-Child Center program involving both cognitive stimulation via nursery school activities and extensive training of parents in the techniques of early childhood education and sensitivity to the psycho-social aspects of child development. Group C2 had had prior exposure to a group care situation offering nursery-school activities with the mothers away at work and having no involvement in the program.

Groups PCC, C1, and C2 were matched on the following variables: number of siblings (50 percent 0 or 1; 50 percent 2 or more); maternal education (50 percent less than high school; 50 percent high school graduates)[3]: Cattell I.Q. scores at twelve months indicating normal intellectual development; all children with normal birth histories; all children free of obvious sensory or motor impairments; all were single-parent families; all families were living in public assistance housing (in fact, they were all living in the same housing complex).

Group M had the same proportional representation regarding siblings and all subjects demonstrated normal birth histories and absence of sensory or motor impairments.

All families were two-parent families with the minimum parent education being two years of college. All families were of middle to upper middle socio-economic status by virtue of income, education, location and value of home, and occupation of head of household.

There were ten subjects in each group (four males and six females) for a total N of 40.

At the time of data collection, groups PCC, C1, C2, and M had completed three to four months of experience in their respective nursery school programs. The programs were quite similar in terms of space, equipment, teacher education, student-teacher ratio, and the adherence to a traditional nursery school program of exposure to brief learning experiences (story telling, pre-reading instructional games) and "free play" choice of blocks, sand, paint, books, clay, water, etc.

Procedure

Behavioral records were obtained by use of a concealed observer who recorded everything the child did or said in a thirty minute time period. These observations were carried out during the "free play" segment of nursery school activity when teachers were available but no direct "teaching" would occur. Three such recording procedures were carried out within a six-week period. Hence, the data base for each child consisted of ninety minutes of recording each child's undirected classroom behavior; his independent activities, his interaction with other children, and his interaction with the adults present.

A behavior coding system had been developed earlier and was applied to these observational recordings. The coding system originally consisted of fifty-two items many of which had been taken from the "Situational Categories Observation Schedule" by G.L. Weld (see Gorden, 1971) and others had been added to cover a wide range of children's behavior and the types of interactions which would occur between children and between adults and children. The original schedule was applied to sample behavioral recordings by three independent judges. Items were retained where interjudge agreement on scoring did not fall below 85 percent. The final coding system of twenty-seven "child" items and ten "adult" items is presented in table 1. For the prupose of this study, we are concerned only with the "child" items.

Table 1 about here

The current behavior records were scored independently by three judges. Each thirty-minute segment was scored separately for each child. The final score for each behavior item within each group was an average of all obtained scores (a total of 90; 10 children by three sessions by three judges).

Results

No significant differences were found in a comparison

of item frequencies between groups C1 and C2 ("t" tests, $p > .05$). The two control groups were then combined (group C) and comparisons were made with group PCC (table 2), group M (table 3), and between groups PCC and M.

Table 2 about here

Table 3 about here

The statistically significant differences between PCC and C and between M and C involved almost exactly the same items with all the differences being in the same direction. Of the total twenty-seven items, group PCC demonstrated a greater frequency than did group C on twelve items. Group M differed significantly from C on the same twelve items and in the same direction. For items where the frequency was greater for group C, there is agreement on five of six items.

For comparison PCC vs M the analysis indicated a significant difference ($p < .01$) on only one item. The PCC group tended to "join or accept other child happily" (item 26) more frequently than did group M.

Discussion

The difference between groups M and C indicate that the M children dealt with tasks by trying new responses

more frequently, staying on the same activity for a longer period of time, and bringing a task to completion much more frequently than did the group C subjects. They were also better able to ignore interruptions by other children but could also seek the attention of other children and adults more frequently. They paid more attention to other children either through conversation or by quietly watching other youngsters. They also engaged in a greater frequency of behavior which could be considered as possible indicators of self-reinforcement; e.g., they smiled and verbalized to themselves to a greater degree than did the group C subjects.

In the opposite direction, the data indicates that group C tended to change their activities more frequently without bringing them to completion. They tended to jump and run more frequently. There were more frequent incidents where the group C child made intrusive demands on other children and, in turn, was controlled by the demands of other children and adults.

This comparison between groups M and C demonstrated behavioral differences not influenced by the presence or absence of group experience prior to age three, but which appear to be an outcome of whatever life experiences are controlled by socio-economic status. The PCC sample, coming from the same general environmental background as group C (to the point of having lived most of their lives in the same city housing project), demonstrated behavior patterns indistinguishable from middle and upper middle socio-economic status youngsters. This

similarity in behavior is of importance only because the behaviors observed have such characteristics as persistence on a self-directed task, completion of such tasks, and resistance to social distraction. It is certainly tempting to interpret smiling and verbalizing to self as an indicator of the occurrence of self-reinforcement, as this would fit a developmental model of achievement motivation quite nicely. This is, of course, pure conjecture at this point.

The use of naturalistic observation for data collection precluded the use of uniform tasks, but allowed for a realistic sampling of self-directed behavior. On the other hand, this report obviously uses a loose definition of achievement motivation as compared with the history of research in the area; for example, an external standard of success is not defined nor uniformly applied. At issue here is the development of a behavioral pattern which this author has chosen to call an achievement orientation or achievement motivation. It involves an aggressive approach to problem solving and we have chosen to examine it in the area of self-directed task choice and task completion.

The specific components of a Parent-Child Center program that enhance the development of this behavior pattern have not been delineated. The method of working with the child in the center, changes that occur in the parents, the parents' interaction with the child at home, are all variables requiring further study. Of great interest, of course, is the persistence of these

behavior patterns in the children over time. What does it take in terms of family-child interaction and/or outside intervention to maintain a high frequency of achievement or success oriented behavior. These questions require a longitudinal examination involving interaction with different forms of parental and other support.

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FOOTNOTES

2. Developed by the U.S. Office of Child Development with some programs in the past sponsored by the Office of Economic Opportunity.
3. This could not be maintained for group C1 where all the mothers were high school graduates.

Table 1

Behavior Coding System

A. Child

1. Starts (new) activity.
2. Completes activity (new or changed activity).
3. Repeats (same) activity.
4. Changes activity (starts new--does not "end" old).
5. Persists with unsuccessful response.
6. Tries new response.
7. Looks at other Child
8. Looks at Adult.
9. Calls attention of Child.
10. Calls attention of Adult.
11. Conversation (listening or talking) with Child.
12. Conversation (listening or talking) with Adult.
13. Ignores interruption by Child.
14. Ignores interruption by Adult.
15. S controls Adult.
16. S controls Child.
17. S controlled by Adult.
18. S controlled by Child.
19. Smiles or laughs to self.
20. Vocalizes to self.
21. Verbalizes to self.
22. Claps hands.
23. Jumps/runs
24. Isolates self (moves toward isolated play).
25. Watches others passively.
26. Joins or accepts other Child happily.
27. Disruptive behavior (cries, fights)

B. Adult

a. Positive reinforcement (smiles, "good", etc.).
b. Ignores (no response).
c. Negative reinforcement ("no," angry face).
d. Interrupts Child's activity.
e. Offers activity to Child.
f. Shows Child how.
g. Verbally explains to Child.
h. Encourages Child to do activity.
i. Lets Child do activity.
j. Stops Child's attempt and Adult does activity.

Table 2

Group PCC vs Group C:
The Frequency Differences
For Which The Analyses ("t" Tests)
Indicated Statistical Significance

A. PCC frequency greater than that of Group C----------

	Item	P
2.	Completes activity	<.001
3.	Repeats (same) activity	<.001
6.	Tries new response	<.001
11.	Conversation with Child	<.001
13.	Ignores interruption by Child	<.001
19.	Smiles or laughs to self.	<.001
12.	Conversation with adults	<.01
21.	Verbalizes to self	<.01
25.	Watches others passively	<.01
26.	Joins or accepts other child happily	<.01
9.	Calls attention of Child	<.05
10.	Calls attention of Adult	<.05

B. PCC frequency less than that of Group C----------

	Item	P
4.	Changes activity (starts new-does not "end" old)	<.001
17.	S controlled by Adult	<.001
23.	Jumps/runs	<.001
16.	S controls Child	<.01
18.	S controlled by Child	<.01

Table 3

Group M vs C:
The Frequency Differences
For Which The Analyses ("t" Tests)
Indicated Statistical Significance

A. M frequency greater than that of Group C----------

	Item	P
2.	Completes activity	<.001
6.	Tries new response	<.001
11.	Conversation with child	<.001
12.	Conversation with adult	<.001
13.	Ignores interruption by child	<.001
19.	Smiles or laughs to self	<.001
3.	Repeats (same) activity	<.01
9.	Calls attention of child	<.01
21.	Verbalizes to self	<.01
25.	Watches others passively	<.01
26.	Joins or accepts other child happily	<.01
10.	Calls attention of adult	<.05

B. M frequency less than that of Group C----------

	Item	P
4.	Changes activity (does not "end" old)	<.001
17.	S controlled by Adult	<.001
23.	Jumps/runs	<.001
16.	S controls Child	<.01
5.	Persists with unsuccessful response	<.05
18.	S controlled by Child	<.05